

## Regulation on Transportation of Primary Lithium Batteries and Relevant Guidelines in the United States

### ■Date of Issue

July 2017 (Ver.C: May 2019)

### ■Relevant Models

MELSEC-A/QnA/Q/L/QS series and MELSEC iQ-R series programmable controllers

Thank you for your continued support of Mitsubishi Electric programmable controllers, MELSEC-A/QnA/Q/L/QS series and MELSEC iQ-R series.

Effective from December 29, 2004, the U.S. Department of Transportation (DOT) enacted a battery transport regulation that prohibits the domestic transport of primary lithium batteries aboard passenger aircraft (transport is allowed by cargo aircraft only). A procedure is therefore required to prevent the accidental transport of primary lithium batteries on passenger aircraft to or within the United States (The regulation applies to shipments which pass via the United States and also those from the United States to other final destinations).

This technical bulletin shows guidelines for transportation of primary lithium batteries by air under the DOT regulation (Department of Transportation 49 CFR Parts 171, 172, 173 and 175 Hazardous Materials; Prohibition on the Transportation of Primary Lithium Batteries and Cells Aboard Passenger Aircraft; Final Rule). When arranging the transportation of Primary Lithium Batteries, responsibility for the transportation as the owner of goods is required. Therefore, it is advisable to always confirm the DOT regulation.

Furthermore, please contact the relevant airline for details, as the regulation may be handled differently from one airline to another.

## 1 MODELS SUBJECT TO THE DOT REGULATION

The following table lists control item to the DOT regulation in MELSEC-A/QnA/Q/L/QS series and MELSEC iQ-R series. For the batteries of the programmable controllers used, refer to the manuals for each product.

Product name	Model	Product supply status
Q series battery	Q8BAT	Lithium battery (assembled battery)
	Q8BAT-SET	Lithium battery (assembled battery) + Q8BAT connection cable
Q/L series, MELSEC iQ-R series battery	Q7BATN	Lithium battery (assembled battery)
	Q7BAT	Lithium battery
	Q7BATN-SET	Lithium battery (assembled battery) with holder
	Q7BAT-SET	Lithium battery with holder
Q/L/QS series, MELSEC iQ-R series battery	Q6BAT	Lithium battery
MELSEC iQ-R series battery	FX3U-32BL	Lithium coin battery
A/QnA series battery	A10BAT	Lithium battery (assembled battery)
	A8BAT	Lithium battery (assembled battery)
	A6BAT	Lithium battery
K series battery	K6BAT	Lithium battery
Q series memory card battery	Q2MEM-BAT, Q3MEM-BAT	Lithium coin battery
MELSEC iQ-R series C Controller module	R12CCPU-V	Containing lithium coin battery (BR2450A)

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Product name	Model	Product supply status
Q series memory card	Q2MEM-1MBSN, Q2MEM-1MBS, Q2MEM-2MBSN, Q2MEM-2MBS	Packed with lithium coin battery (Q2MEM-BAT)
	Q3MEM-4MBS, Q3MEM-8MBS	Packed with lithium coin battery (Q3MEM-BAT)
	Q3MEM-4MBS-SET, Q3MEM-8MBS-SET	Packed with lithium coin battery (Q3MEM-BAT) + Memory card protective cover
QnA(S) series memory card	Q1MEM-128S, Q1MEM-128SE, Q1MEM-1MS, Q1MEM-1MSE, Q1MEM-256S, Q1MEM-256SE, Q1MEM-2MS, Q1MEM-512S, Q1MEM-512SE, Q1MEM-64S, Q1MEM-64SE	Packed with lithium coin battery (BR2325)

## 2 REGULATION IMPLEMENTATION SCHEDULE

Effective from December 29, 2004

## 3 TRANSPORT HANDLING PROCEDURE

The precautions indicated in the following should be observed when products subject to the DOT regulation are shipped to or within the United States aboard aircraft.

 Page 2 For Transport Aboard Cargo Aircraft

 Page 2 For Hand-carried Transport Aboard Passenger Aircraft

(The regulation applies to shipments which pass via the United States and also those from the United States to other final destinations).

Please note that even if shipment by sea or land (rail) is specified, the transport company may change this to an air shipment. Therefore, be sure to contact the transport company in advance, and inform them that the shipment contains primary lithium batteries.


### 3.1 For Transport Aboard Cargo Aircraft

The Class 9 hazard label and warning label<sup>\*1</sup> must be affixed on the packing case if the lithium content of a battery exceeds 1g or that of an assembled battery exceeds 2g. The fabrication and affixing of these labels is the responsibility of the customer.

The customer is also responsible for notifying the transport company that transport aboard a passenger aircraft is prohibited. For the lithium content of our products, refer to the following.

 Page 3 LITHIUM CONTENT AND WEIGHTS OF THE PRODUCTS

\*1 For details on labels, refer to the following.


 Precautions for transport recommendations on lithium batteries (FA-A-0222)

### 3.2 For Hand-carried Transport Aboard Passenger Aircraft

#### Primary lithium batteries only

Lithium metal batteries has been forbidden for transport aboard passenger aircraft since January 1, 2015.<sup>\*1</sup>

\*1 For details on air transport prohibition of lithium metal batteries aboard passenger aircraft, refer to the following.

 Precautions for transport recommendations on lithium batteries (FA-A-0222)

#### Lithium batteries contained in or packed with equipment

The rules for hand-carried transport aboard passenger aircraft of the lithium batteries contained in or packed with equipment are changed by the IATA Dangerous Goods Regulations 59th edition that was taken effect on January 1, 2018.<sup>\*1</sup>

For the lithium content and weights of our products, refer to the following.

 Page 3 LITHIUM CONTENT AND WEIGHTS OF THE PRODUCTS

\*1 For details on the rules for hand-carried transport aboard passenger aircraft of the lithium batteries contained in or packed with equipment, refer to the following.

 Precautions for transport recommendations on lithium batteries (FA-A-0222)

## 4 LITHIUM CONTENT AND WEIGHTS OF THE PRODUCTS

The lithium content and weights of MELSEC-A/QnA/Q/L/QS series and MELSEC iQ-R series programmable controller related products are shown below for reference purposes.

Part or product name	Model	Lithium content	Weight
Q series battery	Q8BAT	5.7g <sup>*1</sup>	387g
	Q8BAT-SET	5.7g <sup>*1</sup>	429g
Q/L series, MELSEC iQ-R series battery	Q7BATN	1.8g	48g
	Q7BAT	1.55g	47g
	Q7BATN-SET	1.8g	60g
	Q7BAT-SET	1.55g	57g
Q/L/QS series, MELSEC iQ-R series battery	Q6BAT	0.57g <sup>*2</sup>	17g
MELSEC iQ-R series battery	FX3U-32BL	0.15g	30g <sup>*3</sup>
A/QnA series battery	A10BAT	4.0g <sup>*4</sup>	275g
	A8BAT	4.5g <sup>*4</sup>	335g
	A6BAT	0.50g <sup>*4</sup>	14g
K series battery	K6BAT	0.65g	17.5g
Q series memory card battery	Q2MEM-BAT	0.014g	0.8g
	Q3MEM-BAT	0.15g	6.7g
Lithium coin battery contained in the MELSEC iQ-R series C Controller module	BR2450A	0.16g	5.0g
Lithium coin battery packed with memory card for the QnA(S) series	BR2325	0.05g	3.2g

\*1 The lithium content of batteries manufactured in November 2017 or earlier differs from this list. For details, refer to the following.

📖 Changes in battery parts (FA-A-0242)

\*2 The lithium content of batteries manufactured in July 2017 or earlier differs from this list. For details, refer to the following.

📖 Changes in battery parts (FA-A-0242)

\*3 This weight is measured after the battery is packed.

\*4 The lithium content of batteries manufactured in December 2018 or earlier differs from this list. For details, refer to the following.

📖 Changes in battery parts (A6BAT, A8BAT, A10BAT) (FA-A-0270)

### REVISIONS

Version	Date of Issue	Revision
-	July 2017	First edition
A	November 2017	Addition of FX3U-32BL
B	March 2018	Available for e-Manual Viewer
C	May 2019	Change of the lithium content of A10BAT, A8BAT, and A6BAT Addition of Q7BATN, Q7BATN-SET, Q2MEM-1MBSN, and Q2MEM-2MBSN Correction of the transport handling procedure